

ECS Configuration Change Request

Page 1 of 13 Page(s)

1. Originator R. Haynes	2. Log Date: 4/11/00	3. CCR #: 00-0387	4. Rev: -	5. Tel: 925-0932	6. Rm #: 2110F	7. Dept. SED
8. CCR Title: Clear IP Don't Fragment Bit on FDDI Attached SGIs						
9. Originator Signature/Date Randy Haynes 4/6/00		10. Class II	11. Type: CCR	12. Need Date: 4/28/00		
13. Office Manager Signature/Date James R. Math 4/6/00		14. Category of Change: Other		15. Priority: (If "Emergency" fill in Block 28). Routine		
16. Documentation/Drawings Impacted: None		17. Schedule Impact: See Attached		18. CI(s) Affected: None		
19. Release Affected by this Change: N/A		20. Date due to Customer: N/A		21. Estimated Cost: None - Under 100K		
22. Source Reference: <input checked="" type="checkbox"/> NCR (attach) <input type="checkbox"/> Action Item <input type="checkbox"/> Tech Ref. <input type="checkbox"/> GSFC <input type="checkbox"/> Other: NCR ECSed26150						
23. Problem: (use additional Sheets if necessary) Because the PowerHub does not fully support a mixed FDDI and Ethernet environment, FDDI attached SGI hosts on a DAAC's production network cannot properly communicate with other FDDI attached hosts in other networks when there is an Ethernet network inbetween. The SGIs are unable to quickly determine the correct IP packet size to use. This causes long delays (25 seconds) in receiving data.						
24. Proposed Solution: (use additional sheets if necessary) Issue Engineering Technical Directive (ETD) to clear the Don't Fragment bit on FDDI attached SGI hosts. Also, this solution supports NASA's Network Security Policy of blocking all ICMP messages (ICMP messages are used to notify a host that it is sending too large an IP packet). The IPNOC has informed ECS that we should not rely on ICMP messages to determine correct IP packet size. We should allow IP packet fragmentation.						
25. Alternate Solution: (use additional sheets if necessary) See attached						
26. Consequences if Change(s) are not approved: (use additional sheets if necessary) Slow network response until PowerHub is removed from the network.						
27. Justification for Emergency (If Block 15 is "Emergency"):						
28. Site(s) Affected: <input type="checkbox"/> EDF <input checked="" type="checkbox"/> PVC <input checked="" type="checkbox"/> VATC <input checked="" type="checkbox"/> EDC <input checked="" type="checkbox"/> GSFC <input checked="" type="checkbox"/> LaRC <input checked="" type="checkbox"/> NSIDC <input type="checkbox"/> SMC <input type="checkbox"/> AK <input type="checkbox"/> JPL <input type="checkbox"/> EOC <input type="checkbox"/> IDG Test Cell <input type="checkbox"/> Other						
29. Board Comments:			30. Work Assigned To:		31. CCR Closed Date:	
32. ED/SCDV CCB Chair (Sign/Date): Bryn J. Peters 4/17/00			Disposition: <u>Approved</u> App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS			
33. M&O CCB Chair (Sign/Date): W. J. Smith 13 Apr 00			Disposition: <u>Approved</u> App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS			
34. ECS CCB Chair (Sign/Date):			Disposition: Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ESDIS			

CM01JA00

ORIGINAL

ECS/EDF/SCDV/M&O

ADDITIONAL SHEET

CCR #: 00-0387 Rev: Originator: R. Haynes

Telephone: 925-0932 Office: 2110F

Title of Change: Clear IP Don't Fragment Bit on FDDI Attached SGJs

17. Schedule Impact:

This ETD must be completed before the Catalyst 6000 Ethernet Switch is installed at each DAAC, VATC, and PVC.

25. Alternate Solution:

There are two alternate solutions:

1. Modify PowerHub code to send the ICMP message within a few seconds. We have evaluated the latest available version of the code (5.0.3) and it does not solve the problem.

Also, the PowerHub will be removed from the DAACs within a year (software support ends March 15, 2001) and the vendor currently does not have a fix for this problem.

2. Change the network design to only connect the Catalyst 6000 to the PowerHub. This solution would require that the PowerHub be removed from the DAACs before 1) the firewalls are installed, or 2) EBnet traffic migrates to the Abilene network.

Also, a network reconfiguration would be required to connect the Catalyst 6000 to a DAAC's ECS router when the PowerHub is removed.

CM01AJA00

ORIGINAL